THE BRITISH JOURNAL OF EXPERIMENTAL PATHOLOGY

THE BRITISH JOURNAL OF EXPERIMENTAL PATHOLOGY

EDITOR
J. V. T. Gostling

ASSISTED BY
P. A. Judd and P. J. Cole

VOLUME SIXTY FOUR

1983

LONDON
H. K. LEWIS & Co. Ltd.
136 GOWER ST., WC1E 6BS

on behalf of
THE BRITISH JOURNAL OF EXPERIMENTAL PATHOLOGY
(a company limited by guarantee)
Registered Office: Africa House, 64-78 Kingsway, London, WC2B 6BE
Registered in England 355858

Directors:
F. W. O'Grady, (president), A. C. Thackray (vice-president)
J. V. T. Gostling, R. M. Hicks, J. R. Pattison,
C. E. Gordon Smith, D. A. J. Tyrrell,
Sir Graham S. Wilson and N. Woolf

Copyright © 1983
Made and Printed in Great Britain for
H. K. Lewis & Co. Ltd., by
Adlard & Son, Ltd., Bartholomew Press, Dorking.

CONTENTS

No. 1—FEBRUARY

PAGE

BHONDE, R. R., WAGH, U. V. AND GUPTA, N. P.—REPLICATION OF NON-RESPIRATORY VIRUSES IN TRACHEAL ORGAN CULTURES 1

SIMPSON, L. O. AND SHAND, B. I.—THE IMPLICATIONS OF THE CHANGES IN THE NATURE OF THE URINARY PROTEINS WHICH OCCUR IN ALBUMIN OVERLOAD-INDUCED PROTEINURIA IN NORMAL MICE 6

MEYER, S. AND YAROM, R.—MUSCLE REGENERATION AND TRANSPLANTATION ENHANCED BY BONE MARROW CELLS 15

TRIVEDI, P. AND MOWAT, A. P.—CARBON TETRACHLORIDE-INDUCED HEPATIC FIBROSIS AND CIRRHOSIS IN THE DEVELOPING RAT: AN EXPERIMENTAL MODEL OF CIRRHOSIS IN CHILDHOOD 25

AL-HILLI, F. AND WRIGHT, E. A.—THE EFFECTS OF CHANGES IN THE ENVIRONMENTAL TEMPERATURE ON THE GROWTH OF TAIL BONES IN THE MOUSE . 34

AL-HILLI, F. AND WRIGHT, E. A.—THE EFFECTS OF CHANGES IN THE ENVIRONMENTAL TEMPERATURE ON THE GROWTH OF TAIL BONES IN THE MOUSE. RADIOLOGICAL AND MORPHOLOGICAL STUDY 43

CORNISH, J., BARABAS, A. Z. AND LANNIGAN, R.—THE EFFECT OF PRE-INJECTION OF RAT KIDNEY F3 ANTIGEN ON THE DEVELOPMENT OF PASSIVE HEYMANN NEPHRITIS 53

SETHI, P. AND LIPTON, H. L.—LOCATION AND DISTRIBUTION OF VIRUS ANTIGEN IN THE CENTRAL NERVOUS SYSTEM OF MICE PERSISTENTLY INFECTED WITH THEILER'S VIRUS 57

EMERSON, R. J. AND COLE, P. J.—FAILURE OF MACROPHAGE ACTIVATION TO INDUCE PULMONARY FIBROSIS IN ASBESTOS-EXPOSED GUINEA-PIGS . . 66

KERNBAUM, S., MASLIAH, J., ALCINDOR, L. G., BOUTON, C. AND CHRISTOL, D.—PHOSPHOLIPASIC ACTIVITIES OF BRONCHOALVEOLAR LAVAGE FLUID IN RAT PNEUMOCYTIS CARINII PNEUMONIA 75

O'CONNOR, W. N., HAMANN, S. R. AND HANLEY, H. G.—RECONSTRUCTION OF THE MICROSCOPIC TRANSMURAL EDGE OF EXPERIMENTALLY INFARCTED CANINE MYOCARDIUM 81

SHUKLA, M. I. AND CHATURVEDI, U. C.—TRANSMISSION OF DENGUE VIRUS-INDUCED SUPPRESSOR SIGNAL FROM MACROPHAGE TO LYMPHOCYTE OCCURS BY CELL CONTACT 87

HAMAMOTO, Y., HASHIMOTO, K., BABA, M., KINOSHITA, K. AND YASUHIRA, K.—EXPERIMENTAL PRODUCTION OF PULMONARY GRANULOMAS. III. PLASMA-CELL GRANULOMAS IN MICE 93

ABAZA, H., ASSER, L., ABDEL REHEIM, S. M., SHAABAN, N., MAREI, S. K. AND HAGRAS, M. A.—A HISTOPATHOLOGICAL AND HISTOCHEMICAL STUDY OF THE OVARIES OF MICE EXPERIMENTALLY INFECTED WITH *Schistosoma mansoni* . 100

MCCORMICK, D., WALLACE, I., KIRK, J., DINSMORE, S. AND ALLEN, I.—THE ESTABLISHMENT AND CHARACTERISATION OF A CELL LINE AND MOUSE XENOGRAFTS FROM A HUMAN MALIGNANT MELANOMA 103

No. 2—APRIL

PAGE

TANCRÈDE, G., ROUSSEAU-MIGNERON, S. AND NADEAU, A.—LONG-TERM CHANGES IN THE DIABETIC STATE INDUCED BY DIFFERENT DOSES OF STREPTOZOTOCIN IN RATS 117

WEXLER, B. C. AND MCMURTRY, J. P.—HORMONAL AND METABOLIC CHANGES DURING ACUTE MYOCARDIAL INFARCTION IN NORMOTENSIVE *vs* HYPERTENSIVE RATS 124

TRICKETT, L. P., EVANS, P. R., MACIVER, A. G., SMITH, J. L. AND SLAPAK, M.—VARIABLE LOCALIZATION OF BLOOD GROUP ANTIGEN IN GROUP A KIDNEYS 137

MURAKAMI, M., KAWAMURA, R., NISHI, S. AND KATSUNUMA, H.—EARLY APPEARANCE AND LOCALIZATION OF INTRANUCLEAR INCLUSIONS IN THE SEGMENTS OF PROXIMAL TUBULES OF RATS FOLLOWING INGESTION OF LEAD 144

YAMAMOTO, H., KANAIDE, H. AND NAKAMURA, M.—METABOLISM OF GLYCOSAMINOGLYCANS OF CULTURED RAT AORTIC SMOOTH MUSCLE CELLS ALTERED DURING SUBCULTURE 156

DE TORANZO, E. G. D., DE FERREYRA, E. C., DE FENOS, O. M. AND CASTRO, J. A.—PREVENTION OF CARBON TETRACHLORIDE-INDUCED LIVER NECROSIS BY SEVERAL AMINO ACIDS 166

COOKE, A., OLIVER, R. F. AND EDWARD, M.—AN *In Vitro* CYTOTOXICITY STUDY OF ALDEHYDE-TREATED PIG DERMAL COLLAGEN 172

HAMAMOTO, Y., KINOSHITA, K., HASHIMOTO, K., MATSUSHITA, T., KOGISHI, K. AND YASUHIRA, K.—EXPERIMENTAL PRODUCTION OF PULMONARY GRANULOMAS. IV. EOSINOPHILIC GRANULOMA 177

GULATI, L., CHATURVEDI, U. C. AND MATHUR, A.—CHARACTERIZATION OF CYTOTOXIN PRODUCED BY MACROPHAGES IN RESPONSE TO DENGUE VIRUS-INDUCED CYTOTOXIC FACTOR 185

UHARI, M., REINILÄ, A. AND TARKKA, M.—PREVENTION OF MORPHOLOGICAL CHANGES OF GREAT ARTERIES IN COARCTATION OF THE AORTA WITH ANTIHYPERTENSIVE THERAPY 191

HARKISS, G. D. AND BROWN, D. L.—THE EFFECT OF COMPLEMENT-DEPLETION OR MANNOSYL RECEPTOR BLOCKADE ON THE *In vivo* CLEARANCE OF ANTIGEN DURING A PRIMARY RESPONSE IN RABBITS 198

COLUCCI, M., LORENZET, R., LOCATI, D., SEMERARO, N. AND DONATI, M. B.—OCCURRENCE OF DISSEMINATED INTRAVASCULAR COAGULATION IN RAT BNML LEUKAEMIA DESPITE LACK OF LEUCOCYTE PROCOAGULANT ACTIVITY 207

NOBLE, W. C.—THE SELECTION OF PENICILLIN-RESISTANT STAPHYLOCOCCI ON MURINE SKIN 211

YONEDA, K.—FLUID-OVERLOAD PULMONARY OEDEMA IN MICE: THE INTERCELLULAR JUNCTIONS OF BRONCHIOLAR EPITHELIUM AND ARTERIAL ENDOTHELIUM 215

LOERMANS, H. AND WIRTZ, P.—INHIBITION OF THE EXPRESSION OF PATHOLOGY IN DYSTROPHIC MOUSE LEG MUSCLES BY IMMOBILIZATION 225

BANKS, R. M. AND O'GRADY, F.—THERAPEUTIC SIGNIFICANCE OF NOCARDICIN A STIMULATION OF PHAGOCYTE FUNCTION IN EXPERIMENTAL *Pseudomonas aeruginosa* INFECTION 231

No. 3—JUNE

PAGE

LEIBOVICI, J., STARK, Y. AND WOLMAN, M.—COMBINED EFFECT OF LEVAN AND CYTOTOXIC AGENTS ON THE GROWTH OF EXPERIMENTAL TUMOURS IN MICE . 239

MALEY, M. A. L. AND HOUSE, A. K.—THE IMMUNE STATUS OF THE RAT WITH CARCINOMA OF THE BOWEL 245

WAXLER, B. AND WEZEMAN, F. H.—LOW MOLECULAR WEIGHT PROTEINASE INHIBITORS. I. EXTRACTION AND IDENTIFICATION OF ACTIVITY FROM NORMAL AND MALIGNANT HUMAN BREAST TISSUES 252

BERNACCHI, A. S., DE CASTRO, C. R., DE FERREYRA, E. C., VILLARRUEL, M. C., FERNÁNDEZ, G., DE FENOS, O. M. AND CASTRO, J. A.—CARBON TETRACHLORIDE-INDUCED LIVER INJURY IN THE RABBIT 261

KATZ, M. A., SOLOTOROVSKY, M. AND LYNN, M.—OPSONIZATION AND PHAGOCYTOSIS OF *Haemophilus influenzae* TYPE B ORGANISMS BY MOUSE POLYMORPHONUCLEAR LEUCOCYTES AND ANTIRIBOSOMAL SERUM 268

KASPERCZYK, H. AND KOJ, A.—ETHIONINE-DEPENDENT INHIBITION OF ACUTE-PHASE PLASMA PROTEIN SYNTHESIS IN THE RAT 277

BROWN, R. C., MUNDAY, D. E., SAWICKA, V. M. AND WAGNER, J. C.—ANGIOTENSIN CONVERTING ENZYME IN THE SERUM OF RATS WITH EXPERIMENTAL SILICOSIS 286

PABST, R. AND KAMRAN, D.—REPLACEMENT OF THE URETER BY AN ILEAL LOOP. QUANTITATIVE ASPECTS OF LONG-TERM MORPHOLOGICAL ALTERATIONS IN MINIPIGS 293

KRUIJSEN, M. W. M., VAN DEN BERG, W. B. AND VAN DE PUTTE, L. B. A.—SEQUENTIAL ALTERATIONS OF PERIARTICULAR STRUCTURES IN ANTIGEN-INDUCED ARTHRITIS IN MICE. HISTOLOGICAL OBSERVATIONS ON FIBROUS CAPSULE, LIGAMENTS, BONE AND MUSCLES, USING WHOLE JOINT SECTIONS 298

ROWE, D. J. F. AND GEDEON, G.—REVERSAL BY PROSTAGLANDIN E_2 INFUSION OF THE EFFECTS OF INDOMETHACIN ON THE EXCRETION OF NITROGENOUS COMPOUNDS IN THE RAT 306

WRIGHT, N. G. AND CORNWELL, H. J. C.—EXPERIMENTAL CANINE ADENOVIRUS GLOMERULONEPHRITIS: HISTOLOGICAL, IMMUNOFLUORESCENCE AND ULTRASTRUCTURAL FEATURES OF THE EARLY GLOMERULAR CHANGES . . 312

PROCTOR, E. AND CHATAMRA, K.—CONTROLLED INDUCTION OF CIRRHOSIS IN THE RAT 320

MATTHEWS, J. B.—THE IMMUNOGLOBULIN NATURE OF RUSSELL BODIES . . 331

MATHUR, A., RAWAT, S. AND CHATURVEDI, U. C.—INDUCTION OF SUPPRESSOR CELLS IN JAPANESE ENCEPHALITIS VIRUS INFECTED MICE 336

No. 4—AUGUST

PAGE

NULSEN, M. F., FINLAY-JONES, J. J., SKINNER, J. M. AND MCDONALD, P. J.—INTRA-ABDOMINAL ABSCESS FORMATION IN MICE: QUANTITATIVE STUDIES ON BACTERIA AND ABSCESS-POTENTIATING AGENTS 345

MOORE, K. AND MORTARI, F.—FRACTIONATION OF HUMAN TUMOUR-ASSOCIATED CELLS BY CENTRIFUGAL ELUTRIATION TO ESTABLISH LYMPHOCYTE, MACROPHAGE AND TUMOUR CELL CULTURES FROM A SINGLE TUMOUR BIOPSY . 354

VIVET, PH., BRUN-PASCAUD, M., MANSOUR, H. AND POCIDALO, J. J.—NON-HYPOXAEMIC PULMONARY OEDEMA INDUCED BY α-NAPHTHYL THIOUREA IN THE RAT 361

MULLER, D., RUITENBERG, E. J. AND ELGERSMA, A.—THE INFLUENCE OF DIFFERENT IMMUNIZATION PATHWAYS ON THE IMMUNOLOGICAL RESPONSE IN THE ORAL MUCOSA 367

ROSSI, M. A. AND CARILLO, S. V.—ELECTRON MICROSCOPIC STUDY ON THE CARDIAC HYPERTROPHY INDUCED BY IRON DEFICIENCY ANAEMIA IN THE RAT . 373

GORLA, N., DE FERREYRA, E. C., VILLARRUEL, M. C., DE FENOS, O. M. AND CASTRO, J. A.—STUDIES ON THE MECHANISM OF GLUTATHIONE PREVENTION OF CARBON TETRACHLORIDE-INDUCED LIVER INJURY 388

SIMPSON, L. O. AND SHAND, B. I.—MORPHOLOGICAL CHANGES IN THE KIDNEYS OF MICE WITH PROTEINURIA INDUCED BY ALBUMIN-OVERLOAD 396

THIBAUT, M., ANSEL, M. AND DE AZEVEDO CARNEIRO, J.—LASERS AS TOOLS FOR MYCOLOGY 403

WOODS, J. A.—COMPARISON OF THE EFFECTS OF BASAL AND METHIONINE-SUPPLEMENTED RECOVERY DIETS ON THE LIVER OF ETHIONINE-PRETREATED RATS 411

GÖROG, P. AND BORN, G. V. R.—UNEVEN DISTRIBUTION OF SIALIC ACIDS ON THE LUMINAL SURFACE OF AORTI ENDOTHELIUM 418

BARRETT, M. C., CASHMAN, S. J. AND MOSS, J.—EXPERIMENTAL INTERSTITIAL RENAL FIBROSIS IN RATS: NEPHRITIS INDUCED BY N-(3,5-DICHLOROPHENYL)SUCCINIMIDE 425

WHITING, P. H., SIMPSON, J. G., DAVIDSON, R. J. L. AND THOMSON, A. W.—PATHOLOGICAL CHANGES IN RATS RECEIVING CYCLOSPORIN A AT IMMUNOTHERAPEUTIC DOSAGE FOR 7 WEEKS 437

TYRRELL, D. A. J., PARRY, R., DAVIES, H., BLOXHAM, C. AND CROW, T. J.—FURTHER STUDIES OF THE CYTOPATHIC EFFECT IN TISSUE CULTURES INOCULATED WITH CSF FROM PATIENTS WITH SCHIZOPHRENIA AND OTHER NERVOUS SYSTEM DISEASES 445

WILLIAMS, W. R., CAVOLINA, F. AND JONES WILLIAMS, W.—PLATELET BINDING IN MONONUCLEAR CELL PREPARATIONS FROM PERIPHERAL BLOOD . 451

HOLYHEAD, E. M., THOMAS, N. W. AND WILSON, C. G.—THE REGENERATION OF RECTAL EPITHELIUM IN THE RAT FOLLOWING WOUNDING WITH SUPPOSITORIES OF POLYOXYETHYLENE (23) LAURYL ETHER 456

LUSCOMBE, M., POULDING, J. M., AMER, B., CLAMP, J. R., HARTOG, M., SHELLEY, J. H. AND TRIBE, C. R.—THE EFFECT OF BROMHEXINE ON EXPERIMENTALLY INDUCED DIABETIC NEPHROPATHY 462

No. 5—OCTOBER

PAGE

PRISCOTT, P. K.—THE GROWTH OF REOVIRUS 3 IN CULTURED RAT EMBRYOS AND IMPLICATIONS FOR HUMAN REPRODUCTIVE FAILURE 467

NATHAN, A. W., LONGMORE, D. B., HAVARD, C. W. H. AND DANDONA, P.—THE EFFECTS OF PLASMA FROM PATIENTS WITH GRAVES' DISEASE ON FOETAL MOUSE HEARTS IN ORGAN CULTURE 474

ASHTON, I. K. AND DEKEL, S.—FRACTURE REPAIR IN THE SNELL DWARF MOUSE. 479

ENWONWU, C. O. AND OKADIGBO, G. O.—RAPID DEVELOPMENT OF OEDEMA AND DEFECTIVE BRAIN HISTIDINE METABOLISM IN YOUNG GUINEA PIGS FED PROTEIN-ENERGY DEFICIENT DIET 487

HASHIMOTO, I., TATSUMI, M. AND NAKAGAWA, M.—THE ROLE OF T LYMPHOCYTES IN THE PATHOGENESIS OF COXSACKIE VIRUS B3 HEART DISEASE . . 497

VERESS, B., ABDALLA, R. E. AND EL HASSAN, A. M.—VISCERAL SPREADING DEPLETION OF THYMUS-DEPENDENT REGIONS AND AMYLOIDOSIS IN MICE AND HAMSTERS INFECTED INTRADERMALLY WITH *Leishmania* ISOLATED FROM SUDANESE CUTANEAUS LEISHMANIASIS 505

SAIKIA, M. AND VAIDEHI, M. P.—STUDIES ON THE PATHOLOGICAL EFFECTS OF FEEDING BETEL-NUT MEAL IN ALBINO RATS 515

GONZALEZ, J. L., GALLEGO, E., CASTAÑO, M. AND RUEDA, A.—TESTICULAR AMYLOIDOSIS IN HAMSTERS EXPERIMENTALLY INFECTED WITH *Leishmania donovani* 518

BHATHAL, P. S., ROSE, N. R., MACKAY, I. R. AND WHITTINGHAM, S.—STRAIN DIFFERENCES IN MICE IN CARBON TETRACHLORIDE-INDUCED LIVER INJURY 524

KAI, O. AND FRANKLIN, R. M.—EFFECTS OF CYCLOSPORIN A ON MOUSE LYMPHOID TISSUES 534

KOLIN, A., VACEK, J. AND LANDI, S.—TUMOUR REJECTION IN IMMUNIZED GUINEA-PIGS 542

JAYARAJ, A. P.—DISSECTING ANEURYSM OF AORTA IN RATS FED WITH CYSTEAMINE 543

GRAY, D. W. R., MILLARD, P. R., MCSHANE, P. AND MORRIS, P. J.—THE USE OF THE DYE NEUTRAL RED AS A SPECIFIC, NON-TOXIC, INTRA-VITAL STAIN OF ISLETS OF LANGERHANS 553

HUSSEINI, R. H., COLLIE, M. H., RUSHTON, D. I., SWEET, C. AND SMITH, H.—THE ROLE OF NATURALLY-ACQUIRED BACTERIAL INFECTION IN INFLUENZA-RELATED DEATH IN NEONATAL FERRETS 559

YAROM, R., MORE, R., SHERMAN, Y. AND YAGEN, B.—T-2 TOXIN-INDUCED PATHOLOGY IN THE HEARTS OF RATS 570

No. 6—DECEMBER

PAGE

BROWN, R. F. R., CLIFFORD, W. E., MARRS, T. C. AND COX, R. A.—THE HISTOPATHOLOGY OF RAT LUNG FOLLOWING SHORT TERM EXPOSURES TO MIXED OXIDES OF NITROGEN (NOx) 579

SIMPSON, L. O. AND SHAND, B. I.—ECHINOCYTES IN THE BLOOD OF HYPERPROTEINAEMIC MICE WITH PROTEINURIA. IS THE EFFECT OF SUCH CELLS ON BLOOD VISCOSITY THE CAUSE OF THE PROTEINURIA? 594

ALI-KHAN, Z., JOTHY, S. AND AL-KARMI, T.—MURINE ALVEOLAR HYDATIDOSIS: A POTENTIAL EXPERIMENTAL MODEL FOR THE STUDY OF AA-AMYLOIDOSIS 599

BOSSERAY, N.—KINETICS OF PLACENTAL COLONIZATION OF MICE INOCULATED INTRAVENOUSLY WITH *Brucella abortus* AT DAY 15 OF PREGNANCY . . 612

BOSSERAY, N.—VACCINE AND SERUM-MEDIATED PROTECTION AGAINST BRUCELLA INFECTION OF MOUSE PLACENTA 617

WAXLER, B. AND WEZEMAN, F. H.—LOW MOLECULAR WEIGHT PROTEINASE INHIBITORS. II. EXTRACTION AND IDENTIFICATION OF ACTIVITY FROM INFILTRATING DUCTAL CARCINOMA DURING LACTATION 626

TU, A. T. AND MORITA, M.—ATTACHMENT OF RATTLESNAKE VENOM MYOTOXIN *a* TO SARCOPLASMIC RETICULUM: PEROXIDASE CONJUGATED METHOD . . 633

OHTAKI, S., TATSUMI, M., KOHASE, M. AND YAMAZAKI, S.—MARKED REDUCTION OF ANAE REACTIVITY OF T CELLS IN THE LYMPHOID TISSUES OF MONKEYS TREATED WITH MULTIPLE DOSES OF HUMAN β INTERFERON 638

EVANS, C. W., TAYLOR, J. E., WALKER, J. D. AND SIMMONS, N. L.—TRANSEPITHELIAL CHEMOTAXIS OF RAT PERITONEAL EXUDATE CELLS . . 644

GEORGE, R. C., BROADBENT, D. A. AND DRASAR, B. S.—THE EFFECT OF INFLUENZA VIRUS ON THE ADHERENCE OF *Haemophilus influenzae* TO HUMAN CELLS IN TISSUE CULTURE. 655

YAMAMOTO, T., KIHARA, I., HARA, M., KAWASAKI, K. AND YAOITA, E.—BOVINE SERUM ALBUMIN (BSA) NEPHRITIS IN RATS. II. HISTOLOGICAL FINDINGS AND COMPLEMENT ACTIVATION BY IMMUNE COMPLEX IN SHR RATS . 660

WEERERATNE, E. A. H., GREGORIADIS, G. AND CROW, J.—TOXICITY OF SPHINGOMYELIN-CONTAINING LIPOSOMES AFTER CHRONIC INJECTION INTO MICE . 670

SARKAR, K., NASH, L. A. AND LEVINE, D. Z.—EFFECTS OF URETERAL LIGATION ON RENAL MEDULLARY LESIONS OF POTASSIUM DEPLETION . . . 677

AL-HILLI, F. AND WRIGHT, E. A.—THE SHORT TERM EFFECTS OF A SUPRA-LETHAL DOSE OF IRRADIATION AND CHANGES IN THE ENVIRONMENTAL TEMPERATURE ON THE GROWTH OF TAIL BONES OF THE MOUSE 684

WHITING, P. H., THOMSON, A. W. AND SIMPSON, J. G.—RENAL AND HEPATIC FUNCTION IN RATS TREATED WITH CYCLOSPORIN A IN COMBINATION WITH GENTAMICIN OR CEPHALOSPORIN ANTIBIOTICS 693